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Harry F. Manbeck, Jr.

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Linda P. Elliott

Attest

[54] METHOD FOR DETERMINING ABSOLUTE REFLECTANCE OF A MATERIAL IN THE ULTRAVIOLET RANGE

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[73] Assignee: Nanometrics Incorporated, Sunnyvale, Calif.

[21] Appl. No.: 473,649

[22] Filed: Feb. 1, 1990

[51] Int. Cl.³ G01J 1/42

[52] U.S. Cl. 250/372; 356/445; 356/448

[58] Field of Search 250/372; 356/445, 448, 356/51

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SiP₂", Applied Optics/vol. 11, No. 9 (Sep. 1972) John R. Barkley, pp. 1928-1935.

Primary Examiner—Carolyn E. Fields

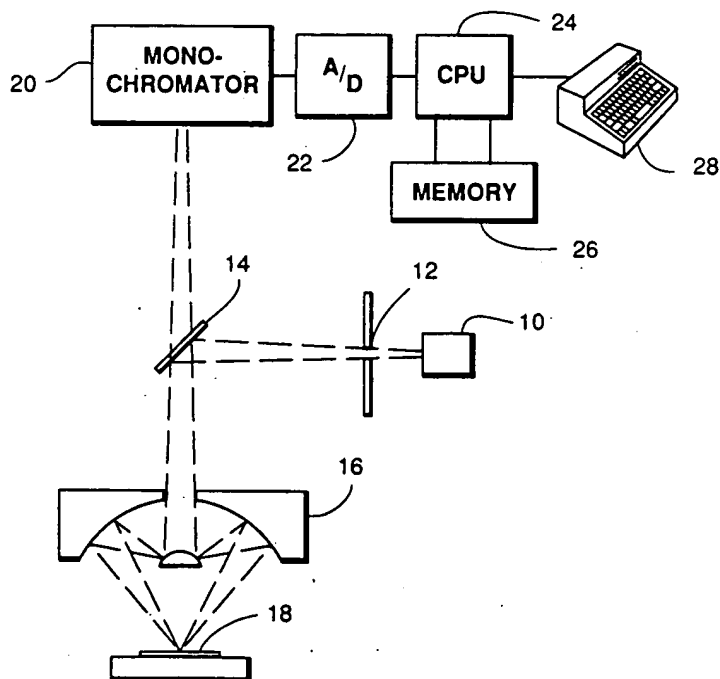
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[57] ABSTRACT

A method for determining a value of absolute reflectance of a material at a predetermined wavelength, in the ultraviolet range from its measured reflectance which includes system losses contributed by optics, illumination sources, detectors, etc. The method involves the measurement of reflectance from a known material such as single crystal silicon whose absolute reflectance is well known, dividing the measured value by the absolute value to obtain a system efficiency coefficient at the known wavelength and then, without changing the illumination or optics, measuring the reflectance of the unknown material and applying this coefficient to this measured value to obtain its absolute value.

5 Claims, 1 Drawing Sheet



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March 8, 2004